

**2019-20 NC Check-In 3**  
**Grade 7 Mathematics**  
**State Item Statistics**

	Content Standard		Item #	Depth of Knowledge	Percent Correct by Item
Expressions and Equations	7.EE.3	Solve multi-step real-world and mathematical problems posed with rational numbers in algebraic expressions. <ul style="list-style-type: none"> <li>• Apply properties of operations to calculate with positive and negative numbers in any form.</li> <li>• Convert between different forms of a number and equivalent forms of the expression as appropriate.</li> </ul>	10^	Skill/Concept	65.6
			11^	Skill/Concept	47.2
			13^	Skill/Concept	54.6
			18^	Skill/Concept	57.5
			24^	Skill/Concept	61.3
	7.EE.4	Use variables to represent quantities to solve real-world or mathematical problems. a. Construct equations to solve problems by reasoning about the quantities. <ul style="list-style-type: none"> <li>o Fluently solve multistep equations with the variable on one side, including those generated by word problems.</li> <li>o Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.</li> <li>o Interpret the solution in context.</li> </ul> b. Construct inequalities to solve problems by reasoning about the quantities. <ul style="list-style-type: none"> <li>o Fluently solve multi-step inequalities with the variable on one side, including those generated by word problems.</li> <li>o Compare an algebraic solution process for equations and an algebraic solution process for inequalities.</li> <li>o Graph the solution set of the inequality and interpret in context.</li> </ul>	1	Recall	47.2
			2	Recall	51.7
			3	Skill/Concept	73.1
			8*^	Recall	25.9
			15^	Skill/Concept	71.9
Geometry	7.G.4	Understand area and circumference of a circle. <ul style="list-style-type: none"> <li>• Understand the relationships between the radius, diameter, circumference, and area.</li> <li>• Apply the formulas for area and circumference of a circle to solve problems.</li> </ul>	12^	Skill/Concept	36.2
			17^	Skill/Concept	38.9
			20^	Skill/Concept	61.9
			22^	Recall	61.5
			25^	Skill/Concept	41.6
	7.G.5	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve equations for an unknown angle in a figure.	4*	Skill/Concept	36.5
			5*	Skill/Concept	58.5
			6*	Skill/Concept	17.3
			7*^	Recall	25.1
			9*^	Strategic Thinking	12.6
	7.G.6	Solve real-world and mathematical problems involving: <ul style="list-style-type: none"> <li>• Area and perimeter of two-dimensional objects composed of triangles, quadrilaterals, and polygons.</li> <li>• Volume and surface area of pyramids, prisms, or three-dimensional objects composed of cubes, pyramids, and right prisms.</li> </ul>	14^	Skill/Concept	52.6
			16^	Strategic Thinking	37.8
			19^	Skill/Concept	44.2
			21^	Skill/Concept	63.5
			23^	Skill/Concept	57.2

\* Items marked with an asterisk (\*) are gridded response items.

^ Students had access to a calculator when completing items marked with a ^.

Note: Results from NC Check-Ins should not be compared across interims, districts, or the state.

Each math Grade 7 NC Check-In assesses different content standards.